



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,114	05/16/2005	Masaya Kinoshita	450100-04819	3614
7590 William S Frommer Frommer Lawrence & Haug 745 Fifth Avenue New York, NY 10151				
			EXAMINER HSU, AMY R	
			ART UNIT 2622	PAPER NUMBER
			MAIL DATE 11/26/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,114

Applicant(s)

KINOSHITA ET AL.

Examiner

AMY HSU

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 5,9-11,13,14,19,23-25,27,28,33 and 37-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8,12,15-18,20-22,26,29-32,34-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Final Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/16/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 5, 9-11, 13-14, 19, 23-25, 27-28, 33, 37-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected species. Applicant timely traversed the restriction (election) requirement in the reply filed on 8/14/2008.
2. Applicant's election with traverse of species I in the reply filed on 8/14/2008 is acknowledged. The traversal is on the ground(s) that the election of species requirement indicated that Fig. 10 illustrates two different species. In response, the Examiner recognizes that Species VI is the correct species illustrated by Fig. 10, not species X. There should not be another species, species X which is illustrated by Fig. 10, and was not a species elected by the applicant. Claims 1, 15, and 29 are considered generic claims.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-7, 12,15-18, 20-21, 26, 29-32, 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara et al. (US 6710818).

Regarding Claim 1, Kasahara teaches a flicker reduction method for reducing a fluorescent light flicker component in a video signal or a luminance signal (*Col 2 Lines 32-43*) obtained by photographing a subject through an XY addressing type image pickup element under an illumination of a fluorescent lamp (*Col 8 Lines 28-33*), comprising: a step of integrating the video signal or the luminance signal, as an input image signal, throughout a duration of time equal to or longer than one horizontal period (*Col 8 Lines 10-12*), a step of normalizing the integrated value or a difference value between the integrated values of adjacent fields or adjacent frames (*Col 8 Lines 14-19*), a step of extracting a spectrum of the normalized integrated value or the normalized difference value, a step of estimating a flicker component from the extracted spectrum (*the calculations such as averaging performed on the signals are output to reference number 5, the flicker judging circuit as seen in Fig. 1, and Col 35 Lines 36 through Col 36 Line 2 teaches within the circuit a spectrum analyzing means exists to detect or estimate the flicker component*).

Another embodiment of Kasahara teaches a step of performing a calculation operation on the estimated flicker component and the input image signal to cancel out the estimated flicker component (*flicker compensation signal generation circuit, reference number 92 and Col 16 Lines 23-28, which teaches a method to compensate for, or cancel out the flicker component, in this case through adjusting the settings*). It would have been obvious to one of ordinary skill in the art at the time of the invention to

modify the first embodiment of Kasahara with the tenth embodiment of Kasahara because the first embodiment focuses on a method of accurately detecting flicker, and one of ordinary skill in the art would realize this detection must be used for reducing or eliminating that detected flicker component. Therefore it would have been obvious to look to other embodiments for more detailed method of using the detected flicker and use calculations to reduce the flicker.

Regarding Claim 2, Kasahara teaches a flicker reduction method for reducing a fluorescent light flicker component in each of color signals (*Fig. 1 shows the input is a video signal, and Fig. 6A shows it is comprised of color signals*) of colors obtained by photographing a subject through an XY addressing type image pickup element under an illumination of a fluorescent lamp, comprising: a step of integrating the color signal of each color, as an input image signal, throughout a duration of time equal to or longer than one horizontal period, a step of normalizing the integrated value or a difference value between the integrated values of adjacent fields or adjacent frames, a step of extracting a spectrum of the normalized integrated value or the normalized difference value, a step of estimating a flicker component from the extracted spectrum, and a step of performing a calculation operation on the estimated flicker component and the input image signal to cancel out the estimated flicker component (*as addressed with claim 1*).

Regarding Claim 3, Kasahara teaches a flicker reduction method for reducing a fluorescent light flicker component in both a luminance signal and each of color signals of colors (*Col 10 Lines 57-60 teaches reducing a flicker component on a signal which represents the luminance signal Y, also Fig. 6A shows color signals are the signals on which flicker detection is performed*), obtained by photographing a subject through an XY addressing type image pickup element under an illumination of a fluorescent lamp, comprising: a step of integrating each of the luminance signal and the color signal of each color, as an input image signal, throughout a duration of time equal to or longer than one horizontal period, a step of normalizing the integrated value or a difference value between the integrated values of adjacent fields or adjacent frames, a step of extracting a spectrum of the normalized integrated value or the normalized difference value, a step of estimating a flicker component from the extracted spectrum, and a step of performing a calculation operation on the estimated flicker component and the input image signal to cancel out the estimated flicker component (*as addressed with claim 1*).

Regarding Claim 4, Kasahara teaches the flicker reduction method according to claim 1, wherein the normalizing step comprises dividing the difference value by the average value of the integrated values of a plurality of consecutive fields or consecutive frames (*Col 8 Lines 10-20 the diving circuit divides the integration results by the averaged result of a plurality of fields or frames*).

Regarding Claim 6, Kasahara teaches the flicker reduction method according to claim 1, wherein the normalizing step comprises dividing the difference value by the integrated value (*Col 8 Lines 10-20 the difference value is the integration results of horizontal lines, and is divided by the integrated value, which is averaged result of the integration values*).

Regarding Claim 7, Kasahara teaches the flicker reduction method according to claim 1, wherein the spectrum extracting step comprises Fourier transforming the normalized integrated value or the normalized difference value. *The flicker judging circuit contains spectrum analyzing means to detect or estimate the flicker component as addressed in claim 1, and Col 9 Lines 1-2 teaches the flicker judging circuit also includes a Discrete Fourier Transform circuit which transforms its input, which is the division result or the normalized value.*

Regarding Claim 12, Kasahara teaches the flicker reduction method according to claim 1, wherein the estimated flicker component is adjusted and the adjusted flicker component and the input image signal are subjected to the calculation operation. Col 16 Lines 23-35 teaches the flicker component is compensated for by the compensation signal generation circuit which performs calculations regarding the illumination flicker frequency. The input image signal is subjected to the calculation operation to determine flicker component as addressed with claim 1.

Note that the language of claim 12 is broad and the term "calculation operation" also previously recited in claim 1 can be interpreted as any kind of calculation. Also the relationship between the adjusted flicker component and the input image signal with respect to the calculation operation is not defined, so it can be interpreted that each of the adjusted flicker component and the input image signal can separately be subjected to any kind of calculation operation, rather than in connection or with respect to each other.

Claims 15-18, 20-21, and 26 are rejected similarly to claims 1-4, 6-7, and 8, where Kasahara teaches the flicker detection apparatus in the context of an image pickup device.

Claims 29-32, 34-35 are apparatus claims corresponding to the method claims of claims 1-4, 6-7, and 8 and are rejected similarly.

4. Claims 8, 22, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara et al. (US 6710818) in view of Sakurai et al. (US 6850278).

Regarding Claim 8, Kasahara teaches the flicker reduction method according to claim 1, but does not teach if it is determined that the level of the input image signal falls within the saturation region, the input image signal is output as is as an output image signal. However, it is well known in the art to detect saturated levels of an input image and to output accordingly. Sakurai teaches in Col 18 Lines 15-20 a saturated pixel

discrimination circuit which determines a whether a pixel is within the saturation region. Then it is output on the basis of the discrimination result.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Kasahara with that of Sakurai to realize the flicker reduction method with detecting for saturated levels and to output the corresponding signal because a saturated region could indicate either flicker does not need to be reduced in that region, or it could indicate no further processing should be performed on such a region, and that this region should be outputted.

Claims 22 and 36 are rejected similarly to claim 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY HSU whose telephone number is (571)270-3012. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amy Hsu
Examiner
Art Unit 2622

ARH 11/23/08

/NHAN T. TRAN/
Primary Examiner, Art Unit 2622